Listing of Claims:

1. (Currently Amended) An optical module, comprising:

a plurality of groups of optical devices, wherein at least one of the plurality of groups comprises at least two optical devices, wherein the at least two optical devices in a group are of a common device type formed on a first side of a common substrate sharing a common data signal contact, wherein the group is separated from other groups by at least one grouping trench, and wherein the grouping trench extends into the common substrate from a second side of the common substrate opposite the first side of the common substrate; and

a controller coupled to the at least two optical devices and configured to select one of the at least two optical devices in the group to be active at a given time to optically couple with an optical fiber.

2. (Previously Presented) The optical module of claim 1, wherein the at least two optical devices in the group are lasers.

3. (Currently Amended) The optical module of claim 2, wherein the lasers comprise ~~top-emitting~~ top-emitting lasers.

4. (Currently Amended) The optical module of claim 2, wherein the lasers comprise ~~bottom-emitting~~ bottom-emitting lasers.

5. (Currently Amended) The optical module of claim 2, wherein the lasers comprise distributed Bragg reflector lasers or distributed feedback lasers.

6. (Currently Amended) The optical module of claim [[2]] 1, wherein the ~~lasers comprise distributed feedback lasers~~ grouping trench extends completely through the common substrate.

7. (Previously Presented) The optical module of claim 1, wherein the at least two optical devices in the group comprise photodetectors.

8. (Currently Amended) The optical module of claim 7, wherein the photodetectors comprise ~~top receiving~~ top-receiving photodetectors.

9. (Currently Amended) The optical module of claim 7, wherein the photodetectors comprise ~~bottom receiving~~ bottom-receiving photodetectors.

10. (Previously Presented) The optical module of claim 1, wherein the plurality of groups of optical devices comprise lasers and photodetectors.

11. (Previously Presented) The optical module of claim 1, further comprising memory configured to store activation information for the at least two optical devices in the group.

12. (Previously Presented) The optical module of claim 1, further comprising redundancy selection circuitry.

13. (Currently Amended) An optical transceiver, comprising:

multiple lasers formed on a first side of a common substrate;

multiple detectors;

storage;

a controller coupled to the storage; and

an interface, via which a single optical fiber can be coupled to at least two of the multiple lasers that are adjacent to each other, or to at least two of the multiple detectors that are adjacent to each other[[,]];

wherein the number of lasers is different from the number of detectors[[,]];

wherein the storage is configured to identify, among a grouped set of redundant optical devices, an optical device that will be an active optical device[[,]];

wherein the grouped set is defined by a grouping trench[[,]];

wherein the grouping trench extends into the common substrate from a second side of the common substrate opposite the first side of the common substrate[[,]];

wherein the redundant optical devices include the at least two of the multiple lasers or the at least two of the multiple detectors[[,]]; and

wherein the redundant optical devices in the grouped set share a common data input and a common electrical contact.

14. (Currently Amended) An optical transceiver, comprising:

at least two optical devices of a first type formed adjacent to each other and formed on a first side of a common substrate to form a group, wherein the group is separated from other groups by at least one grouping trench and is configured for coupling to a single optical fiber; and

an optical device of a second type different from the first type and configured for coupling to a second optical fiber[[,]];

wherein the at least two optical devices of the first type are related to each other by a common connection such that they can each receive a single source signal and are individually selectable for activation at a given time such that one of the at least two optical devices can be automatically substituted for another of the at least two optical devices if the other of the at least two optical devices is a bad device[[,]]; and

wherein the grouping trench extends into the common substrate from a second side of the common substrate opposite the first side of the common substrate.

15. (Previously Presented) The optical transceiver of claim 14, wherein the at least two optical devices of the first type comprise lasers.

16. (Currently Amended) The optical transceiver of claim 15, wherein the lasers comprise ~~top-emitting~~ top-emitting lasers.

17. (Currently Amended) The optical transceiver of claim 15, wherein the lasers comprise ~~bottom-emitting~~ bottom-emitting lasers.

18. (Currently Amended) The optical transceiver of claim 15, wherein the lasers comprise distributed Bragg reflector lasers or distributed feedback lasers.

19. (Currently Amended) The optical transceiver of claim [[15]] 14, wherein the ~~lasers comprise distributed feedback lasers~~ grouping trench extends completely through the common substrate.

20. (Previously Presented) The optical transceiver of claim 14, wherein the at least two optical devices of the first type comprise photodetectors.

21. (Currently Amended) The optical transceiver of claim 20, wherein the photodetectors comprise ~~top receiving~~ top-receiving photodetectors.

22. (Currently Amended) The optical transceiver of claim 20, wherein the photodetectors comprise ~~bottom receiving~~ bottom-receiving photodetectors.

23. (Previously Presented) The optical transceiver of claim 14, wherein the at least two optical devices comprise lasers and photodetectors.

24. (Previously Presented) The optical transceiver of claim 14, further comprising memory configured to store activation information for the at least two optical devices.

25. (Previously Presented) The optical transceiver of claim 14, further comprising redundancy selection circuitry.

26. (Currently Amended) An optical chip, comprising a group of optical devices formed on a first side of a common substrate and being of a common type, wherein the group is defined by a grouping trench, and is arranged such that adjacent optical devices in the group are configured for coupling to a single common optical fiber, wherein the optical devices are selectable based upon an active indication such that one of the optical devices in the group will be an active device and another of the optical devices in the group will be a backup device, wherein the grouping trench extends into the common substrate from a second side of the

common substrate opposite the first side of the common substrate, and wherein the active device and the backup device are individually selectable such that, if the active device fails, the active device will be deselected and the backup device will be selected for use in place of the active device.

27. (Previously Presented) The optical chip of claim 26, further comprising storage configured to store the active indication.

28. (Currently Amended) The optical chip of claim 26, wherein the group of optical devices comprise lasers or photodetectors.

29. (Currently Amended) The optical chip of claim 26, wherein the ~~group of optical devices comprise photodetectors~~ grouping trench extends completely through the common substrate.

30. (Previously Presented) The optical chip of claim 26, further comprising a common electrical connection among all of the optical devices in the group.

31. (Previously Presented) The optical chip of claim 26, wherein the optical devices within the group are separated by at least one separation trench.

32. (Previously Presented) The optical chip of claim 26, further comprising multiple fusible links, wherein the active device is determined by a state of at least one of the multiple fusible links.

33. (Currently Amended) A method of creating an optical chip having redundant devices for use in an opto-electronic unit, the method comprising:

growing active portions of multiple optical devices on a first side of a wafer using a semiconductor material;

processing the wafer to create complete optical devices;

patterning the semiconductor material to create individual optical devices;

grouping the devices by forming grouping trenches from a second side of the common substrate opposite the first side of the wafer around sets of at least two of the individual devices of a common type and extending the grouping trenches into the common substrate; and

connecting each of the at least two devices to a control circuit such that common data can be received by any of the at least two devices in a set from a single optical fiber but the common data will only be handled by one of the at least two devices in the set that is an active device.

34. (Previously Presented) The method of claim 33, further comprising:

identifying the active device from the at least two devices in the set; and

storing data for identifying the active device.

35. – 41. (Canceled)

42. (Currently Amended) An optical transceiver comprising:

a first number of detectors;

a second number of semiconductor laser transmitters formed on a first side of a common substrate and organized as a group defined by a grouping trench, wherein at least some of the laser transmitters in the group are redundant for others, and wherein the grouping trench extends into the common substrate from a second side of the common substrate opposite the first side of the common substrate; and

a controller configured to control which of the laser transmitters are active and which of the laser transmitters are redundant.

43. (Previously Presented) The optical transceiver of claim 42, wherein the first number is at least twice the second number.

44. (Previously Presented) The optical transceiver of claim 42, wherein the first number equals the second number.

45. (Previously Presented) The optical transceiver of claim 42, wherein the first number is three times the second number.

46. (Previously Presented) The optical transceiver of claim 42, wherein the first number is four times the second number.

47. (Previously Presented) The optical transceiver of claim 42, wherein the laser transmitters are organized as at least two groups.

48. (Previously Presented) The optical transceiver of claim 47, wherein one of the at least two groups comprises two lasers.

49. (Previously Presented) The optical transceiver of claim 47, wherein one of the at least two groups comprises three lasers, and wherein at least one of the three lasers is redundant.

50. (Previously Presented) The optical transceiver of claim 49, wherein exactly one of the three lasers is redundant.

51. (Previously Presented) The optical transceiver of claim 49, wherein exactly two of the three lasers are redundant.

52. (Currently Amended) A communications network, comprising:

a first transmitter comprising a number of usable channels;

a first receiver; and

optical fibers coupling the first transmitter to the first receiver[[,]];

wherein the first transmitter further comprises multiple lasers formed on a first side of a common substrate and organized into a group defined by a grouping trench, wherein the grouping trench extends into the common substrate from a second side of the common substrate opposite the first side of the common substrate, wherein at least two of the multiple lasers in the group are configured to couple to one of the optical fibers and are selectable to be active or redundant[[,]]; and

wherein the multiple lasers are controllable such that, if a specific channel is in use by an active laser and a laser failure occurs for the specific channel, a redundant laser can be substituted for the active laser, and wherein the redundant laser and the active laser are from the same group and, after the substitution, the specific channel is in use by the redundant laser.

53. (Previously Presented) The communications network of claim 52, wherein the first transmitter further comprises a programmable laser selection control.

54. (Previously Presented) The communications network of claim 52, wherein the first transmitter further comprises a transmitter failure detection sensor.

55. (Previously Presented) The communications network of claim 52, further comprising an automatic failover circuit.

56. (Previously Presented) The optical module of claim 1, wherein the at least two of optical devices in the group are configured to have carrier movement therebetween.

57. (Previously Presented) The optical module of claim 56, wherein the common substrate is electrically conductive, and wherein the carrier movement is through the electrically conductive common substrate.

58. (Previously Presented) The optical module of claim 1, wherein the optical devices within one group are separated by at least one separation trench configured to isolate individual device contacts.

59. (Previously Presented) The optical module of claim 1, wherein the controller is coupled to the optical devices via contact pads.

60. (Previously Presented) The optical module of claim 59, wherein the controller is disposed on an electronic chip, and wherein the optical devices are flip-chip bonded to the electronic chip.

61. (Previously Presented) The method of claim 33, wherein connecting each of the at least two devices to a control circuit comprises flip-chip bonding the at least two devices to an electronic chip containing the control circuit.